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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,034	08/18/2006	Dong-hee Lee	DJKIM.GENO.PT1	2660
24943 7590 07/07/2009 INTELLECTUAL PROPERTY LAW GROUP LLP 12 SOUTH FIRST STREET SUITE 1205 SAN JOSE, CA 95113			EXAMINER MEHTA, ASHWIN D	
			ART UNIT 1638	PAPER NUMBER
			MAIL DATE 07/07/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/590,034	<b>Applicant(s)</b> LEE ET AL.	
	<b>Examiner</b> Ashwin Mehta	<b>Art Unit</b> 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. In the papers filed May 7, 2009 Applicants cancel all claims 1-10 and submit new claims 11-15. The new claims read on original claims 4-6, which were not placed into a group in the restriction requirement mailed April 7, 2009. New claims 11-15 are examined in the instant Office action. As the claims belonging to Groups I-VII are cancelled, the restriction requirement is withdrawn. Note that any claim(s) presented in a continuation or divisional application that are anticipated by, or rendered obvious over, the claims of the parent application may be subject to a double patenting rejection when the restriction requirement is withdrawn in the parent application. *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

### ***Specification***

2. The specification fails to comply with the sequence rules of 37 CFR 1.821-1.825. Figure 1 contains several amino acid sequences, only one of which is within the sequence listing. The sequences must be inserted into the sequence listing, and either the figure or its brief description should be amended to refer to the sequences by their assigned sequence identifiers.

3. The sequence listing filed July 29, 2008 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not

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supported by the original disclosure is as follows: In SEQ ID NO: 2, amino acid residue 166 was changed from glycine to phenylalanine, and residue 265 was changed from arginine to alanine. It is noted that the sequence of SEQ ID NO: 2 in the sequence listing filed August 18, 2006, as well as in PCT/KR2005 and KR 10-2004-0011517, have glycine and arginine in residues 166 and 265, respectively.

Applicant is required to cancel the new matter in the reply to this Office Action.

#### ***Claim Objections***

4. Claims 11-15 are objected to because of the following informalities: the term – sequence—should appear after “anti-sense nucleotide” in claims 11 and 12. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 11-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 11: the last step of the claimed method is inconsistent with the preamble. The first line of the claim indicates that the method is for inhibiting plant growth in a target plant. However, the last step is for introduction of an antisense nucleotide into the target plant. It is

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suggested that the claim be amended to indicate that expression of the anti-sense nucleotide sequence causes inhibition in plant growth.

In claim 12: the recitation, "transforming said recombinant vector to a transformant" renders the claim indefinite. The recitation is confusing and unclear. Is the vector itself being converted to a "transformant"? It is also unclear exactly what is encompassed by "transformant".

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 11-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Independent claim 11 is drawn to a method for inhibiting plant growth in a target plant, comprising (a) manufacturing an anti-sense nucleotide against a polypeptide encoding a polypeptide containing the amino acid sequence of SEQ ID NO: 2; and introducing said anti-sense nucleotide into the target plant.

As discussed above, the current version of the amino acid sequence of SEQ ID NO: 2 contains two changes from the versions filed on August 18, 2006 and in the priority documents (Residue 166 is changed from glycine to phenylalanine, and residue 265 is changed from

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arginine to alanine). Support for the changes is not found in the application as filed or in PCT/KR2005/000453, and represents NEW MATTER.

7. Claim 13 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 13 limits the method of claim 12 by requiring the anti-sense nucleotide be contained in recombinant vector p-SEN.

The specification on page 20 indicates that a DNA fragment that is the AtPDX4 cDNA in antisense direction was ligated cloning vector pSEN controlled by the sen 1 promoter. Illustrations of pSEN and pSEN-AtPDX4 are shown in Figure 3a and 3b.

The vector p-SEN is essential to the claimed invention. It must be obtainable by a repeatable method set forth in the specification or otherwise be readily available to the public. If the vector is not so obtainable or available, a deposit thereof may satisfy the requirements of 35 U.S.C. 112. The specification does not disclose a repeatable process to obtain the exact same vector and it is not apparent if it is readily available to the public. A deposit of p-SEN with an acceptable depository is required.

If the deposit is made under the terms of the Budapest Treaty, then a statement, affidavit or declaration by Applicants, or a statement by an attorney of record over his or her signature and registration number, or someone empowered to make such a statement, stating that the deposited

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material will be irrevocably and without restriction released to the public upon the issuance of a patent, would satisfy the deposit requirement made herein.

If the deposit is not been made under the Budapest Treaty, then in order to certify that the deposit meets the criteria set forth in 37 CFR 1.801-1.809 and MPEP 2402-2411.05, Applicant may provide assurance of compliance by statement, affidavit or declaration, or by someone empowered to make the same, or by a statement by an attorney of record over his or her signature and registration number showing that:

(a) during the pendency of the application, access to the invention will be afforded to the Commissioner upon request;

(b) all restrictions upon availability to the public will be irrevocably removed upon granting of the patent;

(c) the deposit will be maintained in a public depository for a period of 30 years or 5 years after the last request or for the enforceable life of the patent, whichever is longer;

(d) the viability of the biological material at the time of deposit will be tested (see 37 CFR 1.807); and

(e) the deposit will be replaced if it should ever become inviable.

### ***Prior Art of Interest***

8. U.S. Patent Application Publication 2007214517 and EP1033405 teach nucleotide sequences that encode the version of instant SEQ ID NO: 2 as it appears in the sequence listing filed August 18, 2006 and the priority documents, as well as methods of expressing its complement in a transgenic plant. The instantly claimed method requires an anti-sense

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nucleotide sequence against a polypeptide containing the amino acid sequence of SEQ ID NO: 2, and the exact, complete sequence of the current version of SEQ ID NO: 2 is not taught in the references.

### ***Contact Information***

Any inquiry concerning this or earlier communications from the Examiner should be directed to Ashwin Mehta, whose telephone number is 571-272-0803. The Examiner can normally be reached from 8:30 A.M to 6:00 P.M. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Anne Marie Grunberg, can be reached at 571-272-0975. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

July 6, 2009

/Ashwin Mehta/  
Primary Examiner, Art Unit 1638